Do urinary incontinence and retropubic or robot radical prostatectomy affect the evolution of postoperative physical activity?

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Objectives

To assess the impact of type of radical prostatectomy (RP) and postoperative urinary incontinence (UI) on total physical activity level, sports and household activity levels of prostate cancer survivors, preoperatively to 1, 3 and 6 months after surgery.

Background

Standard treatment for prostate cancer was a retropubic radical prostatectomy. However, since a number of years, robot prostatectomy became more and more the treatment of choice.

Decreased postoperative physical activity (PA) and the influence of UI and kind of surgery on PA are minimally investigated.

Method

- Inclusion criteria
  - Planned for a retropubic/robotic RP
  - Willing to fill in the Flemish Physical Activity Computerized Questionnaire (FPACQ)[1] preoperatively, 1, 3 and 6 months after surgery
- Exclusion criteria
  - Cognitive decline
  - Non Dutch-speaking
- Evaluation of incontinence:
  - 24-hour pad weighing test
- Patients were considered as continent, if
  - they stopped wearing pads
  - had 3 days of 0 gram urine loss on the 24-hour pad test
- Evaluation of total PA level, sports activity level and household activity level (MET hours/week)
- Repeated measures (evolution of PA), ANOVA, Pearson and point-biserial correlation (predictive factors)

Results

- Seventy-six patients were included. Immediately after catheter withdrawal 96% of patients were incontinent. (Table 1)
- Total, sports and household activity level only significantly decreased one month after surgery compared to preoperatively. At three and six months the values nearly equalled preoperative values, except for sports activity six months after surgery (Fig. 1 and 2)
- Type of surgery (retropubic/robot) and occupational status did not have a significant effect on total, sports and household PA level.
- Three months after RP, total and sports PA of incontinent men were significantly lower compared to continent men. A larger amount of urine loss on the first day after catheter withdrawal was significantly associated with a lower total PA level 3 months after RP, but not with sports activity level. At 6 months postoperatively, only household activity level was significantly lower in incontinent men. Household activity level at 3 months after RP was also significantly related to the duration of UI.

Table 1*: Incontinence parameters according to type of surgery*

		Retropubic radical prostatectomy (n= 51)	Robot-assisted radical prostatectomy (n= 25)
Mean age (years)		61.6	61.3
Median amount of urine loss on the first day after catheter withdrawal (days)		116 (48-665)	76 (10-428)
Median (IQR) time to continence (days)		33 (15-86)	23 (8-48)
Continence status (number (%))			
At 1 month	Missing	5 (10%)	2 (8%)
	Continent	23 (45%)	14 (56%)
	Incontinent	23 (45%)	9 (36%)
At 3 months	Missing	5 (10%)	2 (8%)
	Continent	35 (69%)	19 (76%)
	Incontinent	11 (21%)	4 (16%)
At 6 months	Missing	5 (10%)	2 (8%)
	Continent	42 (82%)	22 (88%)
	Incontinent	4 (8%)	1 (4%)

Fig 1 Evolution of the total PA level from the preoperative stage to 6 months after surgery

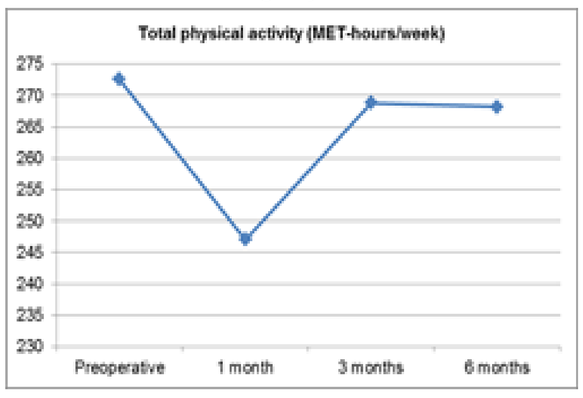
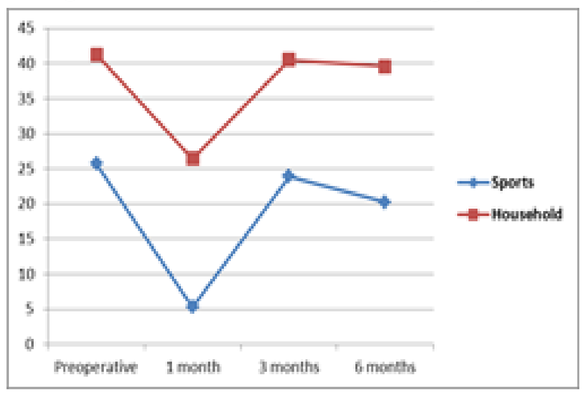


Fig 2 Evolution of sports and household PA from the preoperative stage to 6 months after surgery



Conclusion

- Physical activity significantly decreased only in the first month after surgery. Important predictive factors were the amount of UI on day 1 and the continence status 3 months after surgery, which is related to PA at the same time.
- No difference was found between retropubic and robot RP regarding PA.

1. Matton L, Wijndaele K, Duvigneaud N et al. Reliability and validity of the Flemish Physical Activity Computerized Questionnaire in adults. Res Q Exerc Sport 2007;78:293-306,

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